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Phelps Dodge faces adversity — and survives

New York Times

MORENCI, Ariz. — A few years ago this rugged country — home to big horn sheep, cactus and the nation's largest surviving copper mine — seemed a likely cemetery for the Phelps Dodge Corp.

The betting within the mining industry might have given Phelps Dodge a 10 percent chance of survival," said Robert C. Horton, the director of the federal Bureau of Mines in Washington.

At the time the company was reporting heavy losses while facing further dips in copper prices and was engaged in a bitter dispute with labor unions.

But last year, with copper prices still very low, Phelps Dodge eked out a profit of almost \$30 million.

While new technology helped stem the losses, the primary reason was cost-cutting, particularly reductions in labor costs that provoked a violent strike but also saved millions.

Today mining industry analysts are confident that Phelps Dodge will survive and very likely prosper if copper prices finally move upward, as many predict.

Indeed, the company is expecting to have enough cash on hand this year to think about acquiring other companies.

The metamorphosis of Phelps Dodge is a case study of corporate adjustment to a suddenly adverse environment.

The experience has been far from pleasant, of course, and problems linger.

These include the possibilities of

renewed labor trouble and a recession that would reduce copper demand and prices.

Analysts and even competitors agree, however, that these are minor hurdles compared with the turnaround engineered by the nation's largest copper company.

"Phelps Dodge decided they were going to be a survivor in this business," said Chester B. Stone, the chief financial officer of the Cyprus Minerals Co., which is also involved in copper.

"We think of them as a very tough and determined competitor that has dramatically cut costs. They set an example for the industry."

Mining analysts say that Cyprus's copper mine at Bagdad, Ariz., is the only other American copper operation that was profitable last year.

Although the headquarters of Phelps Dodge are in New York and its chairman, George B. Munroe, is a lawyer by training, Phelps Dodge is essentially a Southwestern company.

It operates copper mines at Morenci and at Tyrone, N.M., as well as copper smelters in Hidalgo, N.M., and Douglas, Ariz., and a copper refinery in El Paso, Texas.

Last year it produced 37 percent of the copper mined in the United States, close to double its share a few years ago.

Although Phelps Dodge has a few other interests, its fortunes fluctuate with copper prices.

In 1980, when copper brought producers an average of \$1.01 a pound, Phelps Dodge earned \$91 million.

Then copper prices started dropping, partly because the 1981-82 re-

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— Duane Sexton, mining engineer

cession curtailed demand and partly because the strength of the dollar dampened prices of commodities denominated in dollars.

From 1982 through 1984, with copper averaging about 72 cents a pound, Phelps Dodge lost a total of \$405 million.

In 1985, however, with copper at 67 cents a pound, the company earned \$29.5 million.

A mine at Ajo, Ariz., was closed, consigning the town to an uncertain future.

The corporate staff was cut nearly in half. Salaries were reduced, and the dividend was suspended.

And in perhaps the boldest move of all, the company demanded wage concessions from labor unions and withstood a two-and-a-half-year strike.

The unions were decertified earlier this year, and picketing recently stopped, but strikers say their efforts are not over.

"We haven't lost our strike," said Fillmore O. Tellez, one of the strikers.

The strike began in July 1983.

After sabotage and riots were re-

ported, the National Guard was called out at Morenci and Ajo.

The company put together a new work force, composed of half newly hired workers and half old employees.

Staff levels were also cut wherever possible, so that Morenci last year produced a record amount of copper concentrate with fewer than 1,600 employees — compared with a work force of more than 3,000 five years ago.

"This company has changed," said Duane Sexton, the chief mining engineer at Morenci, as he drove a van around the mining operation.

"It didn't used to be hungry. It used to make money without any problem. Then all of a sudden it was losing money, and it had to learn how to become lean and mean."

Some workers felt that the accent was on mean. The strikers and labor leaders have denounced Phelps Dodge for what they call "union-busting" efforts to extract inequitable sacrifices from its workers.

Phelps Dodge's mining and milling operations are now run largely

without unions.

Some company officers say Phelps Dodge may be the better for its traumas and restructuring.

Leonard R. Judd, a senior vice president, said that if copper prices in 1985 had been at the average level of the last 20 years, Phelps Dodge would have earned more than \$500 million.

In addition to slashing labor costs, the company has invested in new technology to increase its returns.

Mining and milling are now carried out around the clock, every day of the year, largely with the help of computers that run equipment and keep track of every steam shovel, locomotive and 170-ton truck in the mine.

A new method for extracting pure copper from waste rock, without smelting, has been installed at the Tyrone mine and will be added this year at Morenci.

The method, called solvent extraction-electro-winning, produces copper for less than 30 cents a pound but is limited to certain kinds of rock and takes a long time.

Fault found for Geysers workers' ills

State blames exposure to toxic chemicals, gas

By Ken Payton
Bee Staff Writer

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Since about 1976, more than 100 workers at geothermal generating plants in The Geysers have suffered mysterious bloody noses, respiratory problems, headaches and a skin rash called "creeping Geysers crud."

Officials, who in the last eight years spent millions of dollars to find out why, now conclude that the problems were caused by a naturally occurring gas and solvents used to remove it from plant emissions.

A vast geothermal area in the mountains of Sonoma, Lake and Mendocino counties east of Cloverdale, The Geysers for years has been the hottest star in the world of geothermal energy. Today, 24 plants employing about 700 people churn out enough electricity for 1.8 million people.

According to the state Occupational Safety and Health Administration, the various health problems associated with the area have been found to stem from solvents and the rotten egg-smelling gas hydrogen sulfide common to the area.

Solvents called toluene and trisodium phosphate are used to remove the foul-smelling hydrogen sulfide and other trace elements from air emissions to meet health standards.

Richard Stephens of Cal-OSHA in San Francisco said workers wearing improper clothing and lacking other safety equipment were found to be exposed to the solvents and large doses of hydrogen sulfide gas during normal plant operations.

Other trace elements occurring in the steam include boron, sodium, sulfur, arsenic, lead, mercury and a rare chemical called vanadium, which is used to strengthen steel. They are present in sufficiently high amounts to warrant protective clothing and breathing devices for workers.

Stephens said that because geothermal generation of electricity is a relatively new technology, it wasn't until late last year that conclusive answers could be found.

Until then, several studies by Cal-OSHA and Pacific Gas and Electric Co., at whose plants many health problems were reported, simply had not isolated a toxic chemical affecting workers.

PG&E spokeswoman Martha Eickhof said as recently as a year ago that undetected elements present in both the steam and hydrogen sulfide abatement process were suspected of causing the health problems. She said PG&E consultants took air samples from six generating units and found all levels of hazardous material within state standards.

According to Stephens, "there has been a lot of concern for Geysers workers the last several years because of mysterious illnesses. We had a number of complaints and concerns that a study was necessary."

Health complaints, some coming in bunches of three or more at once, were reported to Cal-OSHA in 1983 and 1984. The total number of complaints was 65. Statistically, said Stephens, there should have been only 10 reports during the period.

In the fall of last year, the International Brotherhood of Electrical Workers asked for a more intensive investigation.

• After interviewing several company doctors and private physicians, and going back through OSHA files to 1976, Stephens said Cal-OSHA found the illnesses "explainable." Stephens said investigators traced health complaints to large amounts of rotten smelling hydrogen sulfide wafting around the plants and to the process used to remove it.

As a result of the study, Stephens said, PG&E cooperated with Cal-OSHA in setting up safety and health monitoring systems. One result has been that reports of illness have gone down dramatically.

In recent months, PG&E spent \$30 million on additional safety measures, company spokeswoman Eickhof said. These include education programs on how to work around toxic elements and new procedures for showers, changing rooms, breathing devices and special clothing.

According to Eickhof, many complaints were for minor sore throats, slight congestion or simply requests to see a doctor.

But many others believe there was more to it than that.

"Sometimes we're just on the edge of science when we do things," said David Mastagni, a Sacramento attorney handling two dozen worker's compensation claims of PG&E geothermal employees.

"Not everyone knows how to deal with nature. Maybe (geothermal energy) is just not thoroughly understood.

"PG&E would like you to believe they are nothing more than sore throats or a cough, but we view it as a situation where there are going to be maybe long-term health effects. It's a complicated situation, and just time will tell," Mastagni said.

Another concern is that the process of removing the trace elements from Geysers steam so that they are not released into the atmosphere produces a large amount of hazardous waste. Most of it is trucked to disposal sites through Napa and Sonoma counties.

Because of the truck traffic and reported spills at The Geysers, a report last December from the North Coast Regional Water Quality Control Board portrayed the area as a primary threat to the region's water quality.

The report said that in the last 10 years, 14 percent of 78 truck accidents in Napa and Sonoma counties involved vehicles going to or from The Geysers. Several involved spills of more than 100 gallons.

The report also said that in the same 10-year period, there were 112 on-site geothermal spills, 60 percent of which involved 1,000 gallons or

more. Some spills were as large as 300,000 gallons.

Eickhof says PG&E is pioneering incineration disposal that could at least cut substantially the need to haul out such waste, thus reducing the risk of roadside spills. She said incineration is now used at four generating units, and a fifth will soon go into operation.

Eventually, PG&E plans to convert all units to burning waste. Studies have shown it can be done without violating air emission standards, Eickhof said.

Some Geysers workers call the collection of underground steam vents emitting the smell of rotten eggs "the Devil's playground." Others have labeled it land of the "frothy monsters," after a frothy, light brown foam that sometimes grows around equipment during various plant processes. The foam is suspected to contain some of the material that makes workers sick.

Whatever The Geysers are called by critics, the energy factories there produce more electricity from underground steam than anyplace else in the world.

Bob Strand of the California Energy Commission said the 24 generating units spin out 1,800 megawatts of electricity.

PG&E operates 19 units, the Northern California Power Agency two units, and the state Department of Water Resources, Santa Fe Geothermal Corporation and Sacramento Municipal Utility District, one each. The Central California Power Agency has another unit under construction.

Strand said that in the next few years, with additional plants under construction or planned, 200 more megawatts will come on line. He said that ultimately, The Geysers could produce 3,000 megawatts.

The state Public Utilities Commission, calling The Geysers a "preferred energy source," last month conditionally approved what would be the largest geothermal generating plant in the world. PG&E plans to spend about \$180 million to build the 140-megawatt giant, which would be big enough to serve 140,000 people.

It could be several years before it becomes operational, because several hang-ups in the permit process threaten to stall the project.

For instance, as a condition of plant approval, the PUC wants PG&E to recover the cost of the project over 30 years, to give ratepayers a break. PG&E wants to pass on the costs of construction over a much shorter period, the traditional method in California.

PG&E has appealed the PUC requirement, indicating it might delay or cancel construction if the PUC does not reverse itself.

In another development, the consumer group called TURN — Toward Utility Rate Normalization — has asked the PUC to reopen hearings on the plant. TURN argues it might not be cost-effective in today's low-priced oil market. In addition, the unit might be unnecessary in light of the state's projected surplus of electricity in the next 20 years.